

REGIONAL-CUM-FACILITATION CENTRE



CENTRAL REGION

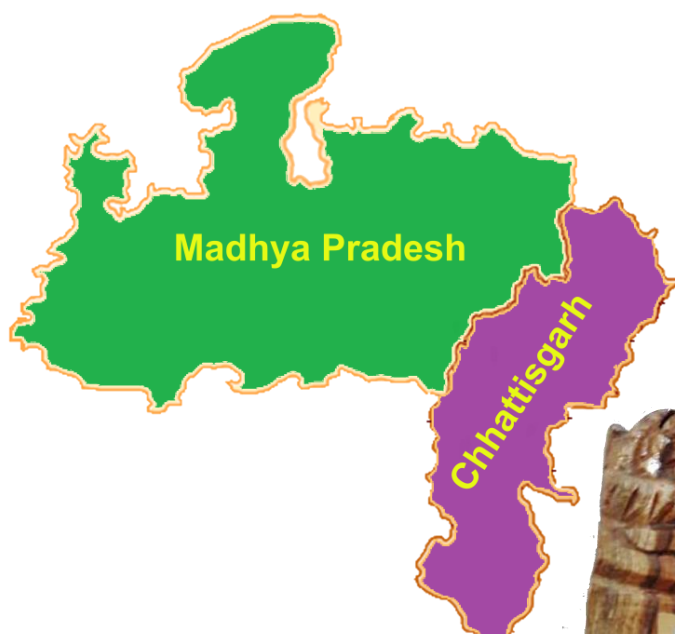


NATIONAL MEDICINAL PLANTS BOARD
MINISTRY OF AYUSH, GOVT. OF INDIA

COORDINATION COMMITTEE MEETING

23rd October, 2018

PROCEEDINGS



**State Forest Research Institute
Narmada Road, Polipathar, Jabalpur (M.P.)**

**REGIONAL-CUM-FACILITATION CENTRE CENTRAL REGION,
STATE FOREST RESEARCH INSTITUTE, JABALPUR
Coordination Committee Meeting**

23rd October, 2018

PROCEEDINGS

Meeting of Coordination Committee of RCFC, Central Region, Jabalpur was held on 23rd October 2018 at State Forest Research Institute, Jabalpur. Copy of the programme is enclosed as **Annexure-I**. The proceeding of the coordination committee meeting began with welcome of committee members & invitees. List of total 41 persons present in the meeting is enclosed as **Annexure-II**.



Introductory remarks by Dr. P.K. Shukla, Regional Director, RCFC, Central Region Jabalpur.

Dr. P.K. Shukla, Regional Director, RCFC, Central Region, spoke about the mandate of NMPB and functions of RCFC Jabalpur. In his speech, he stressed upon the following points :

➤ **Details about the RCFC, Central Region, Jabalpur**

- Sanctioned vide NMPB letter dated 21/08/2017.
- Jurisdiction over states of M.P. & C.G.
- Staff strength

| S.No. | Post | Sanctioned | Working |
|-------|--------------------------------|------------|-----------|
| 1 | Regional Director | 01 | 01 |
| 2 | Deputy Directors | 02 | 02 |
| 3 | Consultant/ Technical Officers | 02 | 02 |
| 4 | Consultant (IT) | 01 | 01 |
| 5 | DEO/Supporting Staff | 05 | 04 |
| | Total | 11 | 10 |

➤ MAIN FUNCTIONS OF RCFC

- To act as one-stop shop for all matters related to medicinal plants in the region.
- To provide a service window for growers of medicinal plants.
- To provide support to NMPB in fulfilling its mandate and acting as its facilitation centre.
- To facilitate production of quality planting material of medicinal plants and to scientifically handle issues concerned with it.
- To take forward initiatives on GAPs/GFCPs by developing species-specific protocols and their dissemination.
- To develop capacities of stakeholders concerned by organizing and supporting training programmes, orientation sessions, exposure visits, etc.
- To function as a platform for bringing together the different stakeholders of medicinal plants sector
- To develop a database on demand, quantity sold and prices of major medicinal plant species.
- To undertake and outsource research studies of relevance in the region and disseminate research findings/new technologies
- To publish extension material in local languages
- To monitor and evaluate projects sanctioned by NMPB in the region.
- To domesticate wild species which are in demand and are endemic to the region and develop varieties thereof.
- Preparation of region - specific quality planting material (QPM).
- Resource survey of medicinal plants.
- Development of managerial and technical skills among the concerned stakeholders.
- Imparting training to concerned stakeholders on conservation, sustainable harvesting, cultivation and primary processing of medicinal plants.
- Conducting research focused on variety development through evaluation of germplasm of medicinal plants preserved in the gene bank of SFRI.
- Assessment of need of post-harvest infrastructure development.
- Extension/ communication through E-Charak mobile app of NMPB to stakeholders.
- Preparation of comprehensive road map of actions to be taken by RCFC, Central Region including quality aspects, conservation, value addition, etc. to achieve the objectives.
- Assessment of need to fix MSPs for medicinal plant species having buyers' market with imperfect competition.
- To act as a center of information dissemination to cultivators/collectors /traders and other stakeholders.
- Extension of nursery techniques of important medicinal plant species among the local communities, so that they can raise and conserve the plants.
- Capacity building in sustainable harvesting and commercial cultivation of high demand medicinal plants.
- Documentation of traditional knowledge.

➤ **Activities conducted by the RCFC**

- Launch Workshop held on 18th May 2018 at SFRI, Jabalpur
- RCFC, Central Region website (www.rcfccentralregion.org) also launched in the launch workshop.
- Stakeholders meet held on 11th June 2018 at SFRI, Jabalpur on cultivation of medicinal plants
- One-day training on cultivation of medicinal plants held on 12th Sept. 2018 at tourist motel, Neemuch, Madhya Pradesh
- QPM production at three sites in SFRI Campus.
 1. Biodiversity Branch – 24,929 medicinal plant seedlings of 34 MAP species were produced.
 2. Seed Technology Branch -25,200 medicinal plant seedlings of 10 MAP species were produced.
 3. RCFC, Central Region : 6,485 medicinal plant seedlings of 8 MAP species were produced.
- RCFC officials have so far conducted reconnaissance field visits to following districts of Madhya Pradesh/Chhattisgarh : Indore, Ujjain, Dewas, Mandsoor, Neemuch, Umariya , Panna, Shahdol, Chhindwara, Seoni, Balaghat, Damoh, Anuppur, Bilaspur and Raipur.
- Herbal Gardens: MAP seedlings of 22 species were supplied free of cost for raising 36 home herbal gardens.

Presentation of the Action Plan and Progress Report of RCFC by Shri Alok Kumar Sharma, Dy. Director, RCFC, Central Region, Jabalpur.

Details of action plan and physical & financial achievements were presented as below.

BUDGET UTILIZATION

Sanctioned budget for 2017-18 - Rs. 149.60 lakhs

Released budget - Rs. 89.76 lakhs (Released vide letter dated 27/10/2017)

| S. No. | Budget Sub-head | Sanctioned budget | Expenditure till 15.10.2018 |
|---------------|--|--------------------------|------------------------------------|
| 1 | Fellowship expenses (Project staff salary exp.) | 45,60,000 | 19,14,001 |
| 2 | Training expenses (Exposure visit) | 12,00,000 | 2,11,416 |
| 3 | Stakeholders meet (Workshop Expenses) | 6,00,000 | 5,25,107 |
| 4 | Office expenses (Assets, desktop, laptop/office equipments/ renovation etc.) | 5,00,000 | 2,22,721 |
| 5 | Stationery expenses (Publicity, printing, stationery) | 8,00,000 | 72,545 |
| 6 | Mobility support | 8,00,000 | 5,09,156 |
| 7 | Data maintenance/ Development of QPM | 5,00,000 20,00,000 | 22,936 10,00,000 |
| 8 | Marketing initiatives | 10,00,000 | 3,60,000 |
| 9 | Office setup, renovation, furnishing exp. etc. | 10,00,000 | 6,73,377 |
| 10 | Consultant fee (Assistance for identified research concerned with the region) | 20,00,000 | 10,00,000 |
| | Total | 1,49,60,000 | 65,11,259 |

Out of the released budget of Rs. 89.76 lakhs, expenditure till 15/10/2018 was Rs. 65.11 lakhs which is about 72.5% of the released budget.

Physical and financial targets

| S.No. | Sub-head | Funds allotted (Rs. in Lakhs) | Expenditure incurred (Up to 15 Oct 2018) | Particulars | | | Remarks | | |
|--------------|---|-------------------------------|--|---|------------------------|-------------------------------|--|--|--|
| 1-4 | Fellowship expenses (Project staff salary Exp.) | 45.60 | 19,14,001 | Project staff fellowship Exp. | | | | | |
| 5. | Training expenses (Exposure visits) | 12.00 | 2,11,416 | Activity | Physical target | Financial Target (Rs.) | Remarks | | |
| | | | | Training programmes | | | | | |
| | | | | Growers training in Neemuch (M.P.) | 1 | 1,50,000 | Training organized | | |
| | | | | Collectors training in Dindori (M.P.) | 1 | 75,000 | Proposed in December 2018 | | |
| | | | | Collectors training in Jagdalpur (C.G.) | 1 | 1,25,000 | Proposed in January 2019 | | |
| | | | | Collectors training in Morena (M.P.) | 1 | 1,25,000 | Proposed in January 2019 | | |
| | | | | Growers training in Dhamtari (C.G.) | 1 | 1,25,000 | Proposed in February 2019 | | |
| | | | | Exposure visits of | | | | | |
| | | | | Growers/cultivators to Raipur & Bilaspur (C.G.) | 1 | 3,00,000 | Rescheduled for 19 to 22 December 2018 | | |
| | | | | Processors to MFP-PARC, Barkheda Pathani, Bhopal (M.P.) | 1 | 3,00,000 | Proposed in February 2019 | | |
| Total | | | | | 12,00,000 | | | | |

| S.No. | Sub-head | Funds allotted (Rs. in Lakhs) | Expenditure incurred (Up to 15 Oct 2018) | Particulars | Remarks |
|---------|--|-------------------------------|--|--|--|
| 6. | Stakeholders Meet (Workshop Expenses) | 6.00 | 5,25,107 | Organized Launch Workshop on 18/05/2018 & Stakeholders meet on 11/06/2018 at Jabalpur on | Completed |
| 7. | Office Expenses (Assets, Desktop, Laptop/office equipments/ Renovation etc.) | 5.00 | 2,22,721 | Office renovation, procurement of computers and other office equipments | Renovation work completed. Procurement process in progress |
| 8. | Stationery expenses (Publicity, printing, stationery) | 8.00 | 72,545 | Office stationery & Publication of brochures | Stationery being purchased from time to time as per requirements. Brochures are being prepared |
| 9. | Mobility support | 8.00 | 509156 | Tour expenses of RCFC personnel | - |
| 10. (a) | (a) Data maintenance | 5.00 | 22936 | Preparation and maintenance of database about medicinal plant growers, traders, manufacturers, etc. and procurement of required hardware/software for data maintenance | |

10. (b) Sub-head : Development of QPM

| S.No. | Activity | Physical targets | Financial Target (Rs. In Lakhs) | Expenditure Up to 15 Oct. 2018 | PI | Remark |
|----------------|--|------------------|---------------------------------|--------------------------------|---|---|
| 1. | Cultivation and production of plants of wild medicinal tree species | 35,000 plants | 7.00 | 3,50,000 | Dr. Archana Sharma, Seed Branch, SFRI, JBP | 25,200 plants of 10 species already raised in the nursery |
| 2. | Mass multiplication of medicinal plants for the development of Quality planting material. | 50,000 plants | 10.00 | 5,00,000 | Dr. Uday Homkar, Biodiversity Branch, SFRI, JBP | 23,929 plants of 34 species already raised in the nursery |
| 3. | Propagation of quality planting material of 12 selected medicinal plant species through seeds and vegetative propagation | 25,000 plants | 2.91 | 1,50,000 | Dr. Parvez Jalil , RCFC, Jabalpur | 6485 plants of 8 species already raised |
| Reserve Amount | | | 0.09 | | | |
| Total | | | 20.00 | 10,00,000 | | |

11. Sanctioned /Head : Marketing initiatives

| S.No. | Activity | Physical targets | Financial target (Rs. In lakhs) | Expenditure | PI | Remark |
|--------------|---|------------------|---------------------------------|-----------------|--|---|
| 1 | Survey of existing primary processing centres, evaluation of their present status, identification of infrastructure upgradation & training needs, establishment of forward linkages with traders/manufacturers and backward linkages with collectors/ cultivators | 30 | 3,60,000 | 3,60,000 | Dr. Pratibha Bhatnagar , Socio-Economic Branch | Work is under progress and will be completed upto Nov. 2018 |
| 2. | Infrastructure upgradation of existing centres | 6 | 3,20,000 | - | Dr. Pratibha Bhatnagar , Socio-Economic Branch | To be initiated after completion of the first sub project. |
| 3. | Training of the staff & persons working in these centres | 3 | 3,20,000 | - | Dr. Pratibha Bhatnagar , Socio-Economic Branch | |
| Total | | | 10,00,000 | 3,60,000 | | |

| S.No | Sub-head of expenditure | Funds allotted (Rs. In Lakhs) | Expenditure incurred (Up to 15 Oct. 2018) | Particulars |
|------|--|-------------------------------|---|-------------------------------------|
| 12 | Office setup, renovation, furnishing exp. etc. | 10.00 | 6,73,377 | Renovation of four rooms completed. |

13. Sub-head : Consultant fee (Assistance for identified research concerned with the region)

| S.No. | Activity | Physical targets | Financial target (Rs. In Lakhs) | Expenditure (Rs) | PI | Remark |
|-------|---|------------------------|---------------------------------|------------------|---|--------------------------------|
| 1. | Establishment of MAP seed production areas | 5 species | 3.00 | 2,10,000 | Dr. Uday Homkar, Biodiversity Branch | Works in progress |
| 2. | Production of vegetative propagules and standardization of vegetative propagation protocols | 5 species | 3.50 | 2,50,000 | | |
| 3. | Evaluation of germplasm for bio-active compounds | 2 species | 3.50 | 2,50,000 | | |
| 4. | Assessment of demand -supply and study of value-supply chains of commercially important medicinal plants species | 3 species | 3.00 | 2,00,000 | Dr. Pratibha Bhatnagar Socio-Economic Branch | |
| 5. | Identification of suitable areas for <i>In-situ</i> conservation of medicinal plants & formulation of project proposals for the establishment of MPCDAs | 5 MPCDAs | 2.00 | - | Shri S.K. Jain Shri A.K. Hazari, RCFC, Central Region, Jabalpur | Work being initiated very soon |
| 6. | Documentation of traditional knowledge of indigenous people about the conservation, harvesting and utilization of various medicinal plants | 1 indigenous community | 2.00 | - | Dr. S.K. Masih Biodiversity Branch SFRI, JBP | |
| 7. | An innovative approach to conservaton and sustainable management of depleting wild medicinal plant resource : Development of workable field mode | 1 model | 3.00 | 90,000 | Dr. Sushil Upadhyay Society for Resource Planning, Development and Research , Bhopal | Work in progress |
| | | Total | 20.00 | 10,00,000 | | |

After the presentation, progress of action plan in terms of physical & financial achievements of the RCFC, was found to be satisfactory by the committee.

The training and exposure visits which were due in the months of October and November 2018 had to be postponed for the months of December 2018 & January 2019 due to imposition of model code of conduct in MP&CG as a result of declaration of Vidhan Sabha election dates by the Election Commission of India.

After the presentation of the progress of action plan, principal investigators (PIs) of various projects sanctioned by RCFC, presented progress of these projects as given below :

1- Dr. Archana Sharma, Principal Investigator and Senior Scientist, Seed Branch, SFRI, presented the following project.

(i) **“Cultivation and production of plants of wild medicinal tree species”.**

Details of the project

Project Amount : Rs. 7.00 lakhs
Project period : 01 year (June 2018 – June 2019)

Objectives

- To promote plantation of rare, endangered, threatened and wild medicinal tree species for future plantation programme.
- To enhance the growth and survival rates in the plantation by using quality planting stock.

Species wise production, disposal and balance of quality planting stock

| S. No. | Botanical Name | Production (Nos.) | Disposed (Nos.) | Balance (Nos.) |
|---------------|------------------------------|--------------------------|------------------------|-----------------------|
| 1 | <i>Aegle marmelos</i> | 4000 | - | 4000 |
| 2 | <i>Terminalia arjuna</i> | 1800 | 25 | 1775 |
| 3 | <i>Terminalia chebula</i> | 2000 | 605 | 1395 |
| 4 | <i>Terminalia bellerica</i> | 4000 | 1350 | 2650 |
| 5 | <i>Embllica officinalis</i> | 3500 | 250 | 3250 |
| 6 | <i>Pterocarpus marsupium</i> | 1800 | - | 1800 |
| 7 | <i>Acacia catechu</i> | 2000 | - | 2000 |
| 8 | <i>Albizia labbek</i> | 2000 | - | 2000 |
| 9 | <i>Gmelina arborea</i> | 2200 | 525 | 1675 |
| 10 | <i>Santalum album</i> | 1900 | - | 1900 |
| | Total | 25200 | 2755 | 22445 |

During presentation, Dr. P.C. Dubey, APCCF, R&E, Madhya Pradesh Forest Department enquired the PI about the criteria for determining the quality of the source material. He emphasised on the need for the analysis of the quantity of active bio-ingredients present. Dr. P.C. Dubey also suggested that the balance planting material may be given to the forest department for planting in forest areas. CCF, Jabalpur present in the meeting agreed to lift all the available plantable stock.

Dr. Sushil Upadhyay informed that according to Dabur India Pvt. Ltd. *Pterocarpus marsupium* found in Shivpuri and Sheopur districts of M.P. has superior bio-active compounds.

Dr. P.C. Dubey informed that *Pterocarpus marsupium* found in Balaghat District of MP is a much better source for producing quality planting material.

Dr. P.K. Shukla, suggested that high demand medicinal plants found in MP/CG must be screened for the presence of bio-ingredients to be used for propagation as QPM.

Dr. M. Kundu, Scientist TFRI, Jabalpur opined that for QPM production, clonal and vegetative propagation should be preferred over propagation by seeds.

2- Dr. Uday Homkar, presented the four projects allotted to him as under.

(i) **Mass multiplication of medicinal plants for the development of quality planting material.**

Project cost : Rs.10 lakhs
Duration : 1year

Objective

- To multiply medicinal plants in large numbers for farmers and other users.

24,929 plants of 34 species prepared under the project

| S.No. | Botanical name | Local name | No. of plants prepared | Remarks |
|-------|--------------------------------|------------|------------------------|---|
| 1. | <i>Plumbago zeylanica</i> | चित्रक | 510 | |
| 2. | <i>Celastrus paniculata</i> | मालकांगनी | 107 | 10 kg seed sown |
| 3. | <i>Rauvolfia serpentina</i> | सर्पगंधा | 214 | |
| 4. | <i>Adhatoda vasica</i> | अडूसा | 233 | |
| 5. | <i>Embelia tsjeriam-cottam</i> | बायविडंग | 1000 | Plants prepared to be shifted in polythene bags |
| 6. | <i>Gloriosa superba</i> | कलिहारी | 10 | |
| 7. | <i>Gymnema sylvestre</i> | गुड़मार | 6025 | |
| 8. | <i>Abrus precatorius</i> | घुमची | 807 | |
| 9. | <i>Asparagus racemosus</i> | सतावर | 5094 | |
| 10. | <i>Coleus forskohli</i> | कोलियस | 621 | |
| 11. | <i>Mucuna pruriens</i> | केवांच | 685 | |
| 12. | <i>Piper longum</i> | लेडीपीपल | 632 | |
| 13. | <i>Tinospora cordifolia</i> | गिलोय | 171 | |
| 14. | <i>Berberis aristata</i> | दारुहल्दी | 543 | |
| 15. | <i>Costus speciosus</i> | केवकंद | 117 | |
| 16. | <i>Acorus calamus</i> | बच | 868 | |
| 17. | <i>Ocimum sanctum</i> | तुलसी | 717 | |

| S.No. | Botanical name | Local name | No. of plants prepared | Remarks |
|-------|-------------------------------|--------------|------------------------|---------|
| 18. | <i>Stevia rebaudiana</i> | स्टीविया | 519 | |
| 19. | <i>Aloe barbadensis</i> | एलोवेरा | 67 | |
| 20. | <i>Anacyclus pyrethrum</i> | अकरकरा | 10 | |
| 21. | <i>Withania somnifera</i> | अश्वगंधा | 426 | |
| 22. | <i>Eclipta prostrata</i> | भृंगराज | 639 | |
| 23. | <i>Bacopa monnieri</i> | ब्राम्ही | 371 | |
| 24. | <i>Murraya koenigii</i> | मीठी नीम | 932 | |
| 25. | <i>Catharanthus roseus</i> | सदाबहार | 112 | |
| 26. | <i>Cissus quadrangularis</i> | हड़जोड़ | 1218 | |
| 27. | <i>Psoralea corylifolia</i> | बावची | 66 | |
| 28. | <i>Pterocarpus santalinus</i> | रक्तचंदन | 452 | |
| 29. | <i>Oroxylum indicum</i> | श्योनाक | 1000 | |
| 30. | <i>Centella asiatica</i> | मण्डूकपर्णी | 763 | |
| | | Total | 24929 | |

The preparation of plants is under progress and will be completed in stipulated time. Dr. Homkar informed that he could successfully raise Kalihari plants from seeds.

(ii) Establishment of seed production areas of medicinal and aromatic plants (MAPs) at SFRI, Jabalpur.

Project cost : R. 3.0 lakhs
Duration : 1year

Objective

- To develop seed production areas of selected 5 medicinal plant species

| S.No. | Species | Local Name |
|-------|--|------------|
| 1 | <i>Asparagus racemosus</i> Willd. | Satawar |
| 2 | <i>Dioscorea hispida</i> Linn. | Baichandi |
| 3 | <i>Mucuna prurience</i> Linn | Kewanch |
| 4 | <i>Oroxylum indicum</i> Vent. | Sheonak |
| 5 | <i>Rauwolfia serpentina</i> Benth. ex Kurz | Sarpgandha |
| 6 | <i>Plumbago zeylanica</i> Linn. | Chitrak |

Dr. Homkar informed that plants of yellow shatawar have also being raised besides those of white shatawar. Two varieties of Kewanch have been identified and plants of these varieties are being raised.

Dr. P.C. Dubey, suggested that permission from the respective chief wild life wardens of the concerned states may be obtained for collection of high quality propagules available in wildlife protected areas also.

(iii) Production of vegetative propagules and standardization of vegetative propagation protocols of selected medicinal plant species.

Project cost : Rs. 3.50 lakhs
Duration : 1 year

Objectives

- Standardization of vegetative propagation protocols for selected species.
- To develop plantations of selected species for collection of vegetative material.
- Production of plants through vegetative propagation (in subsequent years).

Targeted species

| S.No. | Botanical name | Local Name |
|-------|---------------------------------|-------------|
| 1 | <i>Coleus barbatus</i> Benth. | Patharchoor |
| 2 | <i>Gymnema sylvestre</i> R. Br. | Gudmar |
| 3 | <i>Premna integrifolia</i> Linn | Agnimantha |
| 4 | <i>Commiphora wightii</i> | Guggal |
| 5 | <i>Berberis aristata</i> DC. | Daru haldi |

Site: SFRI premises in front of temple (Old garden)

(iv) Evaluation of germplasm of Safed musli (*Chlorophytum* sp.) and Satawar (*Asparagus* sp.) for bio-active compounds.

Project Cost : R. 3.50 lakhs
Duration : 1 year

Objectives

- To collect accessions and samples of Safed musli (*Chlorophytum* sp.) and Satawar (*Asparagus* sp.) from different agro-climatic zones of M.P.
- To analyze the collected material for their bio-active compounds.

Sites: Forest areas of Madhya Pradesh.

Major biochemical constituents of *Asparagus*

The powdered roots contain:-

- 2.95% protein,
- 5.44% saponins,
- 52.89% carbohydrate,
- 17.93% crude fiber,
- 4.18% inorganic matter and
- 5% oil.

This plant also contains vitamins A, B₁, B₂, C, E, Mg, P, Ca, Fe, and folic acid. Other primary chemical constituents of *Asparagus* are essential oils, asparagine, arginine, tyrosine, flavonoids (kaempferol, quercetin, and rutin), resin, and tannin.

Major biochemical constituents of *C. borivillianum* :-

- Carbohydrates 42%,
- Protein 10%,
- Fibres 20 - 30%,
- Saponins 2 -17% and
- Alkaloids 15 - 25%.

(Primarily, saponins and alkaloids impart medicinal value.)

It is a rich source of over 25 alkaloids, vitamins, steroids, saponins, potassium, calcium, magnesium, phenol, resins, mucilage, and polysaccharides and also contains high quantity of simple sugars, mainly sucrose, glucose, fructose, galactose, mannose and xylose.

3- Shri Jitendra Singh, presented following project allotted to Dr. Parvez Jalil. Details of the project is as under :

(i) Propagation of quality planting material of selected medicinal plant species through seeds and vegetative propagation.

Budget : Rs. 2.91 Lakhs
Project period : 01 August, 2018 to 30 June, 2019

Objective

- To develop protocols for mass propagation of commercially important selected medicinal plant species.
- To produce quality planting material of the selected medicinal plant species to meet the demand of planting material from the potential cultivators.

Propagation by seeds

- *Pterocarpus santalinus* (Rakt chandan)
- *Ocimum sanctum* (Tulsi)
- *Strychnos nuxvomica* (Kuchla)
- *Cordia macleodii* (Dahiman)

Vegetative propagation

- *Commiphora agallocha* (Guggal) - Cuttings
- *Stevia rebaudiana* (Bertoni) - Cuttings
- *Mentha piperita* (Mentha) - Cuttings
- *Andrographis paniculata* (Kalmegh) - Cuttings
- *Costus speciosus* (Keokand) - Tubers
- *Pueraria tuberosa* (Patal Kumhra) - Tubers
- *Curcuma caesia* (Kali Haldi) - Tubers
- *Curcuma angustifolia* (Tikhur) - Tubers

Physical target: 25000 plants

Progress so far

| S.No | Species | Number of plants produced |
|------|--|---------------------------|
| 1 | <i>Pterocarpus santalinus</i> (Rakt chandan) | 678 |
| 2 | <i>Ocimum sanctum</i> (Tulsi) | 2000 |
| 3 | <i>Strychnos nuxvomica</i> (Kuchla) | 173 |
| 4 | <i>Commiphora agallocha</i> (Guggal) | 2547 |
| 5 | <i>Stevia rebaudiana</i> (Bertoni) | 216 |
| 6 | <i>Mentha piperita</i> (Mentha) | 216 |
| 7 | <i>Curcuma caesia</i> (Kali Haldi) | 630 |
| 8 | <i>Carcuma angustifolia</i> (Tikhur) | 25 |
| | Total | 6485 |

4- Dr. Pratibha Bhatnagar, presented two projects allotted to her. Details of the projects are as under :

- (i) **Assessment of demand and supply and value supply chains of three commercially important medicinal species.**

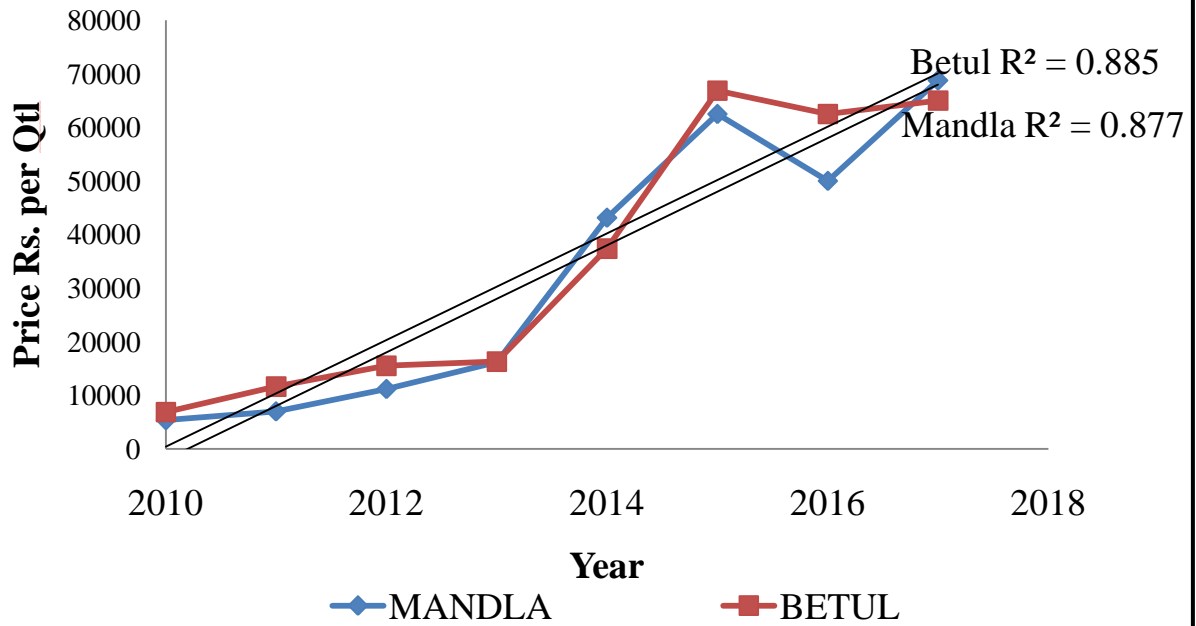
Estimated project outlay Rs. 3.00 lakhs
Project duration One year

Background

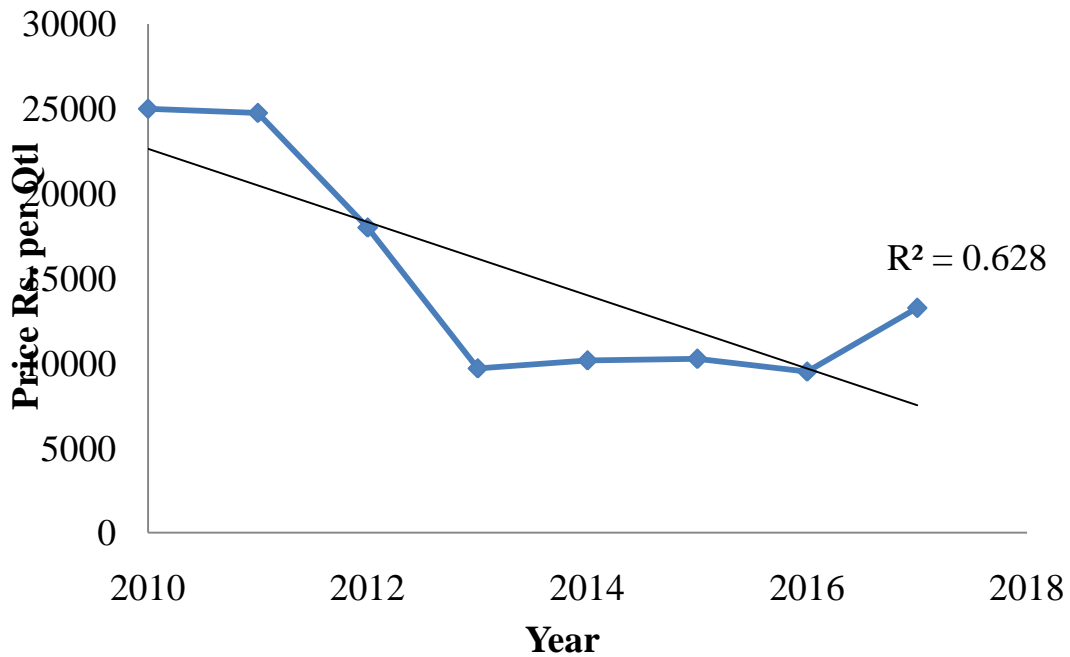
NTFPs are important in terms of contribution to livelihood of rural economy. There are several important NTFPs in Madhya Pradesh, out of which three NTFPs have been selected to know their price trends and demand. Studies have revealed that prices in local and other markets have been continuously fluctuating for last five to seven years in the state but there is a steeply rising trend.

- Baibidang (*Embelia ribes*)
- Malkangni (*Celastrus paniculatus*)
- Vanjeera (*Centratherum anthelminticum*)

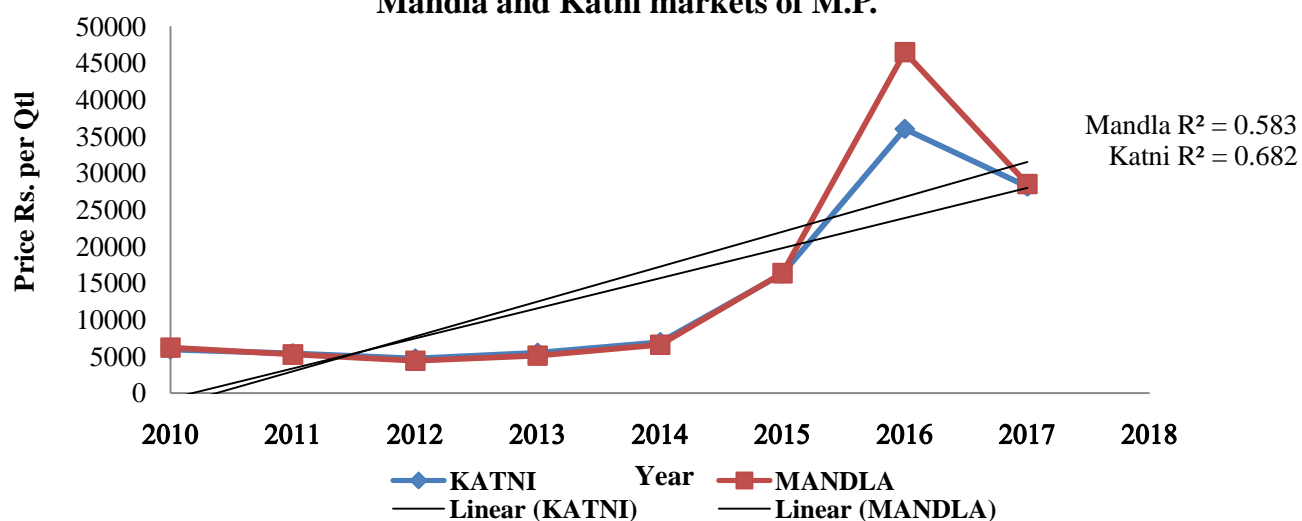
Price movement and trend of Baibidang (*Embelia ribes*) in Mandla and Betul markets of M.P.



Price movement and trend of Malkangni (*Celastrus paniculatus*) in Katni Market of M.P.



Price movement and trend Vanjeera (*Centratherum anthelminticum*) in Mandla and Katni markets of M.P.



Trade in Baibidang in Katni Market

| Year | Qty. (in quintals) | Rates (per quintal) |
|---------|--------------------|---------------------|
| 1987-88 | 148.89 | 1650 |
| 2009-10 | 10-12 | 5725 |
| 2017-18 | 2-3 | 50000 |

Objectives

- Estimation of the demand and supply of Baibidang, Malkangni and Vanjeera.
- Documentation of collection/harvesting and primary processing techniques used by rural population.
- Study of value-supply chains of the species.

Progress

- Survey work has been carried out in Dhimarkheda range of Katni district, Mawai range of Mandla district, Nanda range of Betul district and Tamia range of Chhindwara district.
- Interview done with 26 medicinal plant traders and 54 medicinal plant collectors in the selected ranges.

| S.N. | Districts / Range | Villages | | |
|------|---------------------|--|--|--|
| | | Baibidang | Malkangni | Vanjeera |
| 1. | Chhindwara /Tamia | - | - | Sangakheda, Mankaredi, Bamorikala, Jhot |
| 2. | Mandla /Mawai | Persel, Sathia, Rehtakheda, Amuaar, Patperha | Persel, Sathia, Rehtakheda, Amuaar, Patperha | Persel, Sathia, Rehtakheda, Amuaar, Patperha |
| 3. | Katni/ Dheemarkheda | Jhinna Pipariya, Sahlawan, Shahdaar | Jhinna Pipariya, Sahlawan, Shahdaar | |
| 4. | Betul/ Nanda | - | - | Nisana |

- The reason for shortfall in collection quantity of Baibidang was discussed and it was told that due to premature and excessive exploitation and frequent forest fires, the collection of baibidang has gone down. The situation of malkangni is even worse.
- Dr. P.C. Dubey informed that good quality plants were available in Alirajpur forest area.
- Dr. M. Kalidurai, CCF, Jabalpur suggested the establishment of medicinal plant genetic resource cryo-repository at SFRI, on the pattern of NBPGR, Delhi
- Dr. P.K. Shukla, Regional Director, RCFC requested Dr. Kalidurai to get areas of natural occurrence of baibidang identified in Jabalpur circle and regulate its harvesting to ensure sustainability.

(ii) Survey of existing primary processing centres, evaluation of their present status, identification of infrastructure upgradation and training needs.

Estimated project outlay : Rs. 3.60 lakhs
 Project duration : One year

Background

Madhya Pradesh State Minor Forest Produce (Trade and Dev.) Cooperative Federation was established in the year 1984. It acts as an agent of the state government for trade and development of NTFPs. The Federation, through its primary cooperative societies, also facilitates collection and marketing of selected non-nationalized NTFPs. such as mahua, chironji, gums, medicinal herbs, etc. For processing and value addition of NTFPs, including medicinal plants, 54 processing centres have been established in different parts of the state as describe below :

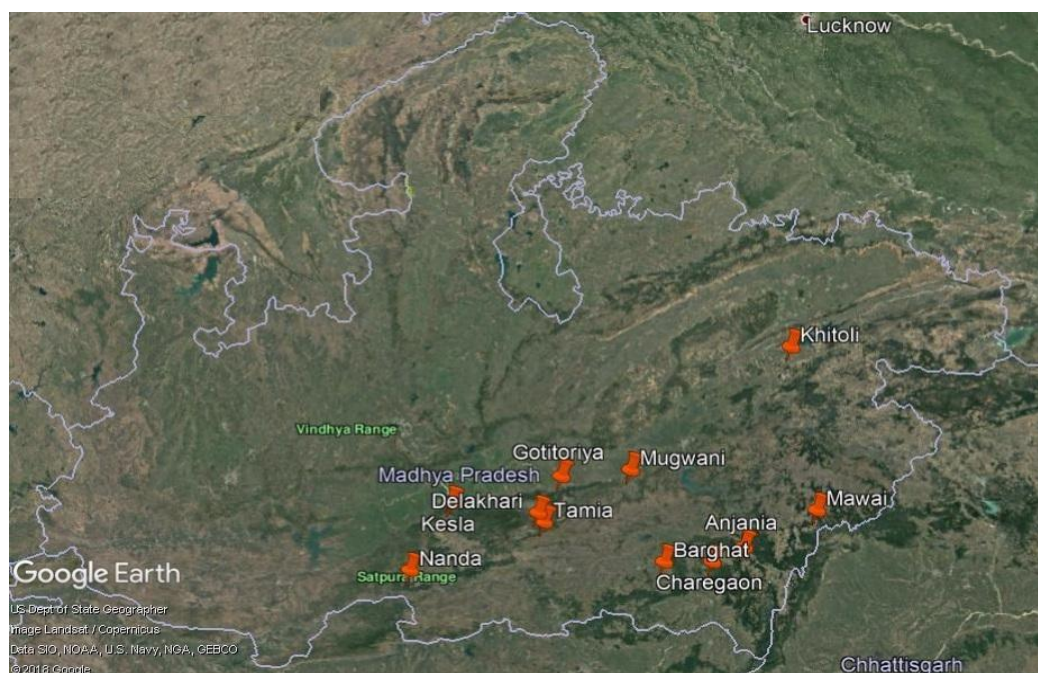
- 20 processing centres were established earlier under a scheme of National Medicinal Plants Board.
- 23 processing centres have been opened in recent years under Bundelkhand package

Objective

To operationalize the established processing centres as profitable units running at optimum capacity, besides ensuring sustained availability of raw material and livelihood to dependent local communities and quality of the processed products.

Progress

Survey work has been done in 11 centers out of 20 processing centers (Map)



- 5- Shri S.K. Jain, made a presentation on “**Conservation and resource augmentation of wild medicinal plants**” as under.

Established MPCAs of Madhya Pradesh (Total 3348 ha.)

| S.No | Division | Range | Block/Compt. No. | Area (in ha.) | Year of establishment |
|------|--------------|-----------------|---|---------------|------------------------------|
| 1 | W.Chhindwara | Delakhadi (old) | Kapoorana, P-122 | 200 | 2008-2009 |
| 2 | W.Chhindwara | Tamia(old) | P-200 | 200 | |
| 3 | | Tamia (New) | P-203 | 200 | |
| 4 | N.Balaghat | South Ukwa | Latri ,(Bithli), P-1884 | 200 | 2008-2009 |
| 5 | Mandsore | Bhanpura | Nawli, 59,60,61 | 250 | 2008-2009 |
| 6 | Sheopur | Karahal | Khori, (old 521,522)/ (new RF-376,377) | 200 | 2015-2016 To 2019-2020 |
| 7 | Anooppur | Amarkantak | Bhundakona, 340 | 200 | 2008-2009 |
| 8 | Mandla | Kanha | Chapri- Sautiya,347,348 | 248 | 2008-2009 |
| 9 | Hoshangabad | | Satpura | 200 | 2008-2009 |
| 10 | S. Panna | Shyamgiri | Shyamgiri | 216 | 2008-2009 |
| 11 | Panna | Hinota | Hinota, 535,537 | 200 | 2008-2009 |
| 12 | Chhatarpur | | Ilichouk ,430,431 | 200 | 2008-2009 |
| 13 | Narshingpur | Gadarwara | Bhinsa mukunda, 309 | 200 | 2008-2009 |
| 14 | S.Sagar | | Narayanpur | 200 | 2008-2009 |
| 15 | Sehore | | Pakka paarcha, 619 | 200 | 2008-2009 |
| 16 | Khandwa | | Bhagpura, 580 | 234 | 2008-2009 |

Established MPCAs of Chhattisgarh (Total 3900 ha.)

| S.No. | Name of the division | Name of the range | Block/Compt. No. | Area (ha.) | Year of establishment |
|-------|----------------------|-------------------|---------------------------|------------|-----------------------|
| 1. | Dhamtari | Dugli | North Jawarra, 307 | 200 | 2009 |
| 2. | Dhamtari | Keregaon | Keregaon, RF-106 | 200 | 2016 |
| 3. | Bastar | Machkot | Tolawarra, 397 | 200 | 2009 |
| 4. | Bastar | Gudia | RF-1793 | 200 | 2016 |
| 5. | Marvahi | Gorela | Patpari,1910 | 200 | 2009 |
| 6. | Khairagarh | Salewara | Bandhatola,125 | 200 | 2009 |
| 7. | Jashpur | Manora | Badupura, 397 | 200 | 2009 |
| 8. | South Kondagaon | Makdi | Bhatwa, 398 | 200 | 2009 |
| 9. | Surajpur | Pratappur | Ghatpendari, 121 | 200 | 2009 |
| 10. | Balrampur | Rajpur | Nawadih, RF-58 | 200 | 2015 |
| 11. | Keshkal | Keshkal | Sidawand, RF-2811 | 200 | 2015 |
| 12. | Sarguja | Udaipur | Rarogya, P-2124 | 200 | 2015 |
| 13. | Dharamjaigarh | Lailunga | Bansdana,P-187,P-188 | 200 | 2015 |
| 14. | Katghora | Pali | Rankhandi, P-118 | 200 | 2015 |
| 15. | Katghora | Pali | Pahandjamdi, P-117, P-119 | 200 | 2016 |
| 16. | Korba | Balko | Dudhitanagar, 943 | 200 | 2016 |
| 17. | West Bhanupratappur | West Paralkot | Bade Bethiya,1251 | 250 | 2016 |
| 18. | West Bhanupratappur | East paralkot | East Benoor,1236 | 100 | 2016 |
| 19. | West Bhanupratappur | East paralkot | Barkot, 1215 | 150 | 2016 |
| 20. | West Bhanupratappur | Koilibeda | Kanadi, 1328 | 200 | 2016 |

Proposed MPCDAs of Chhattisgarh

| S.No. | Name of the division | Name of the range | Compt. No. | Area (ha.) |
|-------|----------------------|-------------------|----------------------|------------|
| 1 | Gariyaband | Taleshar | Jamtai,Taleshar, 114 | 316.240 |
| 2 | Baloda Bazar | Dhamni | Dhamni, 31 | 269.240 |
| 3 | Baloda Bazar | Sirpur | Senkapat, RF-5 | 230.370 |
| 4 | Bastar | Chitrakoot | P-1586 | 192.691 |
| 5 | Kondagaon | Dongriguda | PF-795 | 174.540 |

Proposed MPCDA of Madhya Pradesh

| S. No | Division | Range | Compt. No. | Area (in hac.) | Year of establishment |
|-------|------------|------------|----------------------------------|----------------|---------------------------|
| 1 | N.Balaghat | North Ukwa | P-1869 (Lood,Dongriya,Mandwa) | 360 hactare | 2011-2012 To 2017-2018 |

Work progress

4 MPCAs visited in Madhya Pradesh.

- MPCA – Takaji, Range-Bhanpura, Mandsour, Division
- MPCA – Khori, Range-Karahal, Division-Sheopur
- MPCA – Bhundakona, Amarkantak
- MPCA – Latri, Range- Ukwa, Division- North Balaghat
 - Dr. P.C. Dubey enquired about the present status of MPCA Takaji. Shri Jain informed that an inventory of 53 naturally occurring MAP species in the MPCA with herbarium specimens has been prepared.

6- Shri Maneesh Puri Goswami, presented one project allotted to Dr. S.K. Masih. Details of the project are as under :

- (i) **Documentation of traditional knowledge of Pahadi Korwa indigenous people about the conservation, harvesting and utilization of various medicinal plants.**

Project Budget : Rs. 2,00,000/-

Duration of the project : 6 months

Objectives

- Collection of information regarding conservation, harvesting & utilization of various medicinal plants by Pahadi Korwa tribals of Chhattisgarh.
- Documentation of the traditional knowledge of “Pahadi Korwa” tribe of Chhattisgarh collected from primary data and secondary sources.

Study area

Jashpur, Surguja, Surajpur, Korba and Balrampur districts of Chhattisgarh

Expected outcome

- Information on medicinal plant resource in the study area.
 - Documentation of traditional knowledge about conservation, harvesting and utilization practices.
 - Documentation of traditional healers.
- Dr. P.C. Dubey opined that it is very difficult and time consuming task to obtain information from Pahadi Korwas as they are very shy and conservative in nature . Lot of patience is required to obtain information from them.

Dr. Sushil Upadhyay presented one project allotted to him. Details of the project are as under :

- (i) **An innovative approach to conservation and sustainable management of depleting wild medicinal plant resources: Development of a workable field model.**

Budget : Rs. 3.00 lakhs
Project duration : One year (Sept. 2018 to Aug. 2019)

Objectives

- To take initiative for reconciling the twin objectives of bio-diversity conservation and sustainably meeting the livelihood needs of the communities through active participation of the local communities.
- To organize communities with the help of local forest department, JFMCs and NGOs into SHGs and to activate them for biodiversity conservation, resource augmentation, sustainable management and collection, and group marketing after primary processing.
- To select suitable forest areas, orient SHGs for sustainable practices, ensure equity on access, benefit sharing and implementation of bio-diversity rules and regulations through voluntary adoption of proper treatment
- To identify common community facility centers for processing and facilitate marketing.
- To develop a workable and replicable field model for sustainable management of medicinal plants resource incorporating resource inventory/ mapping assisted natural regeneration, gap planting and sustainable harvesting with active participation of the local communities.
- To build capacity of the SHG members in good collection practices, primary processing and safe/hygienic storage of collected produce by imparting training

Progress

- Site selection.
- Interaction with the villagers and forest officials.
- Group discussion with the villagers.
- Adoption of promising seedlings/saplings by making *thalas* to conserve rainwater.
- Gap planting.
- Homestead planting of Bael, Shatawar, Aonla, etc. in the village as entry point activity. These plants were procured from RCFC, nursery.

Projected outcome

The project will result into institutionalizing the practice of adoption of seedlings/saplings and plantation of selected high demand medicinal plant species by communities. The communities will be empowered for undertaking the work of restoration and sustainable collection, processing and group marketing. This will ensure sustainability of resource and help to halt the process of ongoing depletion of important biodiversity component. The tangible outputs will be :

- Micro-management plan of the project area.
- Organization of SHG/activation of the existing SHG.
- Capacity building of SHG members in sustainable harvesting, primary processing, grading, hygienic storage and group marketing.
- Resource augmentation through adoption of seedlings, ANR, seed sowing/planting in gaps.

Discussion and Recommendations

During discussion at the end of the presentations, it was suggested that more emphasis should be given to collection of germplasm of as many high demand MAP species as possible from natural sources in different agro climatic zones of MP & CG to further strengthen the gene bank of SFRI. Further, chemo-profiling of the collected germplasm should also be got done to screen them for active bio-ingredients. For this purpose, the existing laboratory facilities at SFRI, TFRI, JNKVV and other public & private organizations may be availed of . Planting material of only identified sources and of proven quality should be used for QPM production.

QPM production should be decentralized to cut down transportation cost. The Regional Director, RCFC suggested that QPM production work can be entrusted to R&E nurseries of MP Forest Department located in various agro climatic zones.

Dr. P.C. Dubey, APCCF, R&E, Madhya Pradesh informed that instructions to include production of MAP species in R&E nurseries have already been issued. NMPB (or RCFC) may add on by providing budget to MPFD for this purpose.

For timely disposal of the QPM produced, wide publicity should be given. DFOs may be provided with the information about species wise availability of planting stock and prices.

Dr. Kundu from TFRI, informed that research on determination of sustainable harvesting limits of certain MAP species has been conducted in her institute. She proposed to take up this activity on some other MAP species also if the NMPB (or RCFC) agrees to sponsor it. Regional Director RCFC commented that although substantial work on determination of sustainable harvesting limits has been done in SFRI and other institutions as well but their implementation in field remains to be a challenging task as the NTFPs are common property resource. Therefore, the present need is to develop workable field models for sustainable harvesting for which a project has already been assigned to the Society for Resource Planning, Development & Research, Bhopal.

Vote of Thanks

The meeting ended with vote of thanks proposed by Dr. P.K. Shukla, Regional Director, RCFC, Central Region, Jabalpur.

**Meeting of the Coordination Committee of
Regional-cum-Facilitation Centre (RCFC), Central Region
State Forest Research Institute, Jabalpur**

23rd October 2018

Programme

| Time | Particulars | |
|--|--|--|
| 11.00-11.05 | Welcome of Committee members & invitees | |
| 11.05 – 11.15 | Introductory remarks by Regional Director, RCFC. | Dr. P.K. Shukla, Regional Director, RCFC |
| 11.15 – 11.30 | Presentation of the Action Plan and Progress Report of RCFC | Dr. A.K. Sharma Dy. Director, RCFC. |
| Presentation by the P.I.s concerned about the specific projects sanctioned by the RCFC. | | |
| 11.30 – 11.40 | 1. Cultivation and Production of Plants of Wild Medicinal Tree Species, | Dr. Archana Sharma, Seed Branch, SFRI |
| 11.40 – 12.20 | 1. Mass multiplication of medicinal plants for the development of quality planting material. 2. Establishment of MAP seed production areas. 3. Production of vegetative propagules and standardization of vegetative propagation protocols 4. Evaluation of germplasm for bio-active compounds | Dr. Uday Homkar Biodiversity Branch, SFRI |
| 12.20 – 12.30 | 1. Propagation of quality planting material of selected medicinal plant species through seeds and vegetative propagation | Shri Jitendra Singh DEO, RCFC, Jabalpur |
| 12.30 – 12.50 | 1. Survey of existing primary processing centres, evaluation of their present status, identification of infrastructure upgradation & training needs, establishment of forward linkages with traders/manufacturers and backward linkages with collectors/cultivators 2. Assessment of demand -supply and study of value-supply chains of commercially important medicinal plants species | Dr. Pratibha Bhatnagar Socio-Economic Branch, SFRI |
| 12.50 – 13.00 | 1. Identification of suitable areas for In-situ conservation of medicinal plants and formulation of project proposals for the establishment of MPCDAs. | Shri S.K. Jain Deputy Director, RCFC |
| 13.00 – 13.10 | 1. Documentation of traditional knowledge of Pahadi Korwa, indigenous people about the conservation, harvesting and utilization of various medicinal plants | Shri Manishpuri Goswami DEO, RCFC Jabalpur |
| 13.10 – 13.20 | 1. An innovative approach to conservation and sustainable management of depleting wild medicinal plant resource: Development of workable field model | Dr. Sushil Upadhyay Society for Resource Planning, Development and Research Bhopal |
| 13.20-13.45 | Discussion about the future strategy for the advancement of the medicinal plants sector in the region. | |
| 13.45-13.50 | Vote of thanks | |

List of participants

| S.No. | Name/Address/Contact No. |
|--------------|--|
| 1. | Dr. P.K. Shukla, Regional Director, RCFC, Central Region State Forest Research Institute, Jabalpur |
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| 39. | Smt. Snehlata Mishra, DEO/Supporting Staff, RCFC, Central Region |
| 40. | Shri Arvind Haldkar, Forester, State Forest Research Institute, Jabalpur |
| 41. | Shri Lokesh Thakur, Forest Guard, State Forest Research Institute, Jabalpur |